

# Nationwide Public Safety Broadband Network

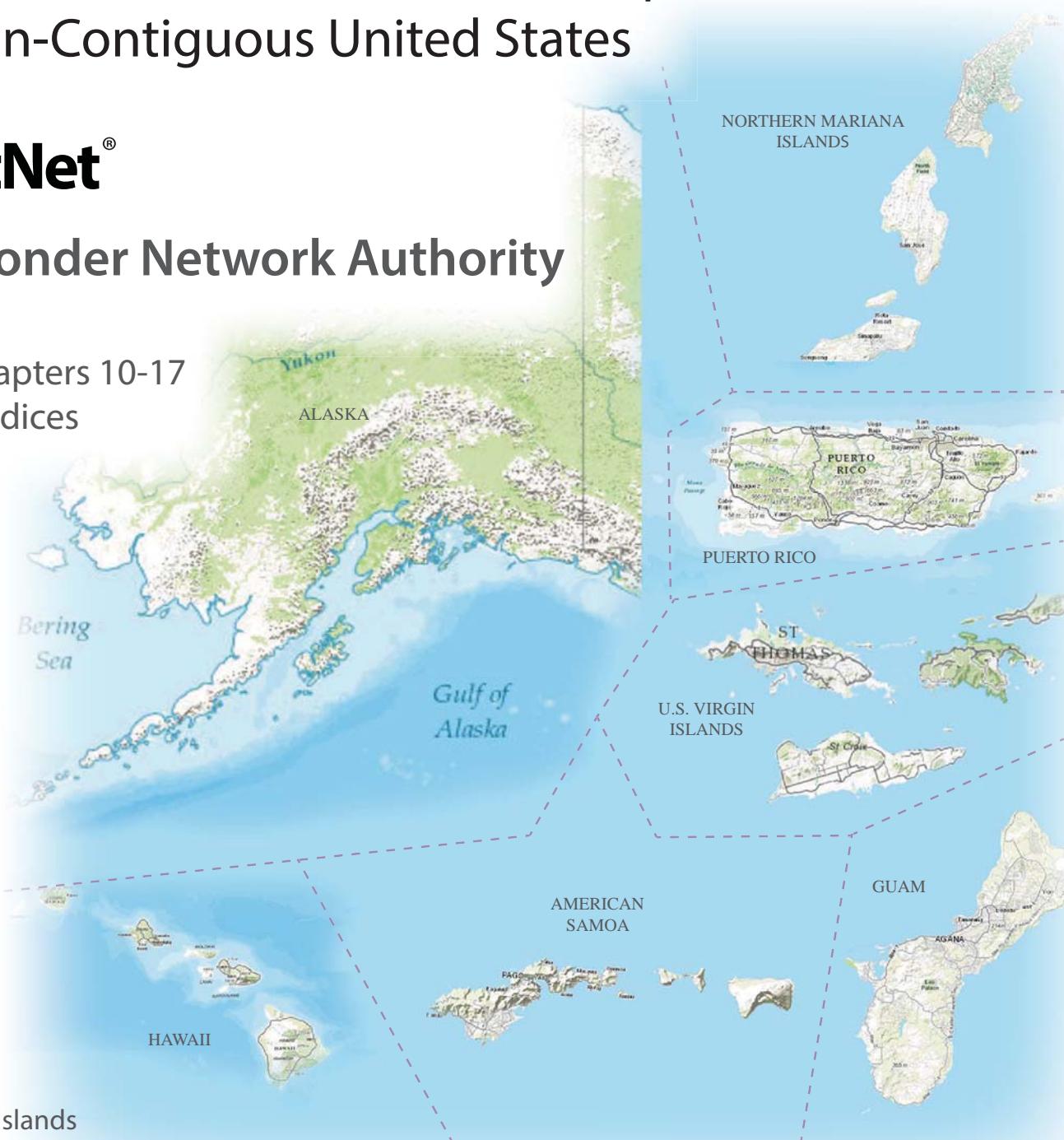
## Draft Programmatic Environmental Impact Statement

### for the Non-Contiguous United States

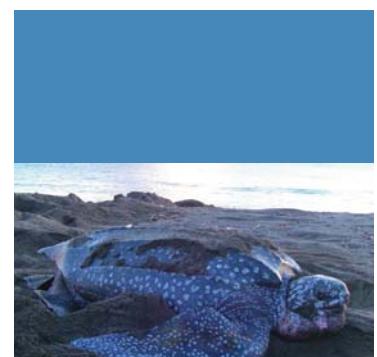
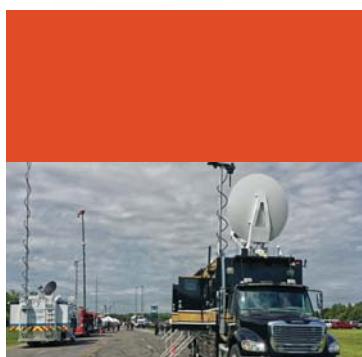


## First Responder Network Authority

Volume 8 - Chapters 10-17  
& Appendices



Alaska  
Hawaii  
American Samoa  
Guam  
Northern Mariana Islands  
Puerto Rico  
U.S. Virgin Islands



March 2016

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# First Responder Network Authority



## Nationwide Public Safety Broadband Network Draft Programmatic Environmental Impact Statement for the Non-Contiguous United States

### Volume 8

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#### **Cooperating Agencies**

Federal Communications Commission  
General Services Administration  
U.S. Department of Agriculture—Rural Utilities Service  
U.S. Department of Agriculture—U.S. Forest Service  
U.S. Department of Agriculture—Natural Resource Conservation Service  
U.S. Department of Defense—Department of the Air Force  
U.S. Department of Energy  
U.S. Department of Homeland Security

March 2016

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## ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit	ATWC	Alaska Tsunami Warning Center
°N	degrees north	AURORA	Alaska Uniform Response Online Reporting Access
µg/m <sup>3</sup>	microgram(s) per cubic meter	BACT	best available control technology
µPa	micro Pascal	BCE	before Common Era
%	percent	BCR	Bird Conservation Regions
A	attained	BGEPA	Bald and Golden Eagle Protection Act
AAC	Alaska Administrative Code	BLM	Bureau of Land Management
AAFIS	Alaska Public Safety Identification System	BLS	U.S. Bureau of Labor Statistics
AAQS	Ambient Air Quality Standards	BMP	best management practice
ACHP	Advisory Council on Historic Preservation	BRFSS	Behavioral Risk Factor Surveillance System
ACS	American Community Survey (U.S. Census Bureau)	BSAI	Bering Sea/Aleutian Island
ADEC	Alaska Department of Environmental Conservation	BWG	BioInitiative Working Group
ADFG	Alaska Department of Fish and Game	CAA	Clean Air Act
AGL	above ground level	CAB	Clean Air Branch
AIRFA	American Indian Religious Freedom Act	CARB	California Air Resources Board
AJRCCM	American Journal of Respiratory and Critical Care Medicine	CBIA	Coastal Barrier Improvement Act of 1990
AKNHP	Alaska National Heritage Program	CBRA	Coastal Barrier Resources Act of 1982
AKOSH	Alaska Occupational Safety and Health	CCP	Comprehensive Conservation Plan
AKWAS	Alaska Warning System	CDC	Center for Disease Control
ALMR	Alaska Land Mobile Radio	CDLNR	Commonwealth Department of Lands and Natural Resources
ANFIRS	Alaska Fire Incident Reporting System	CE	Common Era
ANSCA	Alaska Native Claims Settlement Act	CELCP	Coastal and Estuarine Land Conservation Program
ANSI	American National Standards Institute	CEPD	Caribbean Environmental Protection Division
APE	Area of Potential Effect	CEQ	Council on Environmental Quality
APLIC	Avian Power Line Interaction Committee	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
APSIN	Alaska Public Safety Information Network	CFMC	Caribbean Fisheries Management Council
AQCR	air quality control region	CFR	Code of Federal Regulations
ARFF	Aircraft Rescue and Firefighting	cfs	cubic feet per second
ARMS	Alaska Records Management System	CH <sub>4</sub>	methane
ARPA	Archaeological Resources Protection Act of 1979	CHC	Commonwealth Health Center
AS	Alaska Statute	CIA	Central Intelligence Agency
A.S.A.C.	American Samoa Administrative Code	CMIP3	Coupled Model Intercomparison Project phase 3
ASCA	American Samoa Code Annotated	CNMI	Commonwealth of Northern Mariana Islands
ASCMP	American Samoa Coastal Management Program	CNMIAC	Commonwealth of Northern Mariana Islands Administrative Code
ASDMWR	American Samoa Department of Marine and Wildlife Resources	CO	carbon monoxide
ASEPA	American Samoa Environmental Protection Agency	CO <sub>2</sub>	carbon dioxide
ASHPO	American Samoa Historic Preservation Office	CO <sub>2e</sub>	carbon dioxide equivalents
ASPA	American Samoa Power Authority	COMAR	Committee on Man and Radiation
ATO	Air Traffic Organization	CPA	Commonwealth Ports Authority

CRMP	Coastal Resources Management Program	FMP	Fishery Management Plan
CSP	Central South Pacific	FPPA	Farmland Protection Policy Act of 1981
CUC	Commonwealth Utilities Corporation	FR	Federal Register
CWA	Clean Water Act	ft	feet
CZMA	Coastal Zone Management Act	g/hp-hr	grams per horsepower-hour
CZMP	Coastal Zone Management Program	g/mi	grams per mile
DACA	Deployable Airborne Communications Architecture	GAP	Gap Analysis Program
DAR	Division of Aquatic Resources (Hawaii)	GCA	Guam Code Annotated
DAWR	Division of Aquatic and Wildlife Resources (Guam)	GDA	Guam Department of Agriculture
dB	decibel(s)	GEPA	Guam Environmental Protection Agency
dBA	A-weighted decibel(s)	GHG	greenhouse gas
DBCP	1,2-dibromo-3-chloropropane	GIS	geographic information system
dBZ	Z-weighted decibel(s)	GMP	General Management Plan
DCP	1,2-dichloropropane	GOA	Gulf of Alaska
DEC	Department of Environmental Conservation	GRHP	Guam Register of Historic Places
DHHL	Department of Hawaiian Homelands	GWP	global warming potential
DLNR	Department of Land and Natural Resources (Hawaii)	H <sub>2</sub> S	hydrogen sulfide
DMA	Disaster Mitigation Act of 2000	HDOH	Hawaii Department of Health
DNER	Department of Natural and Environmental Resources of Puerto Rico	HEI	Health Effects Institute
DOA	Department of Agriculture	HHCA	Hawaiian Homes Commission Act of 1920
DOD	Department of Defense	HIANG	Hawaii Air National Guard
DOE	U.S. Department of Energy	HIARNG	Hawaii Army National Guard
DOH	Department of Health	HIHWNMS	Hawaiian Islands Humpback Whale National Marine Sanctuary
DOH-CAB	Hawaii Department of Health, Clean Air Branch	HIOSH	Hawaii Occupational Safety and Health Division
DOT	U.S. Department of Transportation	hp	horsepower
DPNR	Department of Planning and Natural Resources (U.S. Virgin Islands)	HRD	(Guam) Historic Resources Division
DPS	Department of Public Safety	HRHP	Hawaii Register of Historic Places
EA	Environmental Assessment	HRS	Hawaii Administrative Rules, Revised Statute
EAS	Emergency Alert System	HTA	Hawai'i Tourism Authority
EBS	Emergency Broadcast System	HUC	hydrologic unit code
EDB	ethylene dibromide	I/M	Inspection/Maintenance
EFH	essential fish habitat	IARC	International Agency for Research on Cancer
EMS	emergency medical services	IBA	Important Bird Area
ENSO	El Niño/Southern Oscillation	IEEE	Institute of Electrical and Electronics Engineers
EO	Executive Order	IFC	International Finance Corporation
EPCRA	Emergency Planning and Community Right-to-Know Act	in	inches
ERP	effective radiated power	IPCC	Intergovernmental Panel on Climate Change
ESA	Endangered Species Act	IR	ionizing radiation
ESI	Environmental Sensitivity Index	ITCZ	Intertropical Convergence Zone
FAA	Federal Aviation Administration	IUCN	International Union for Conservation of Nature
FAD	Fish Aggregating Device	kg/gal	kilograms per gallon
FCC	Federal Communications Commission	KIRC	Kaho'olawe Island Reserve Commission
FEMA	Federal Emergency Management Agency	LAER	lowest achievable emission rate
FirstNet	First Responder Network Authority	lb/day	pounds per day
		lb/hp-hr	pounds per horsepower-hour

LBJ	Lyndon B. Johnson	NP	National Park
Ldn	day-night average sound level	NPDES	National Pollutant Discharge
Leq	equivalent noise levels	NPL	Elimination System
LNG	liquefied natural gas	NPS	National Priorities List
LTE	Long Term Evolution	NPSBN	National Park Service
µg/m <sup>3</sup>	microgram(s) per cubic meter	NRCS	nationwide public safety broadband
µPa	micro Pascal		network
m/s	meter per second	NRHP	Natural Resources Conservation
MBTA	Migratory Bird Treaty Act	NSPS	Service
mg/m <sup>3</sup>	Milligram(s) per cubic meter	NTIA	National Register of Historic Places
mgd	million gallons per day	NVSR	New Source Performance Standards
MHz	megahertz	NWI	National Telecommunications and
MLRA	Major Land Resource Area	NWR	Information Administration
mm/s	millimeters per second	NWWS	National Vital Statistics Report
MMPA	Marine Mammal Protection Act	OHA	National Wetland Inventory
MOA	Memorandum of Agreement	OIA	National Wildlife Refuge
MPA	Marine Protected Area	OSHA	National Weather Wire Satellite
mph	miles per hour	PA	System
MSA	Magnuson-Stevens Fishery	PAG	Office of History and Archaeology
	Conservation and Management Act	PAHO	Office of Insular Affairs (USDI)
MTR	Military Training Route	PCB	Occupational Safety and Health
MUID	Map Unit Identification Data	PCP	Administration
MW	megawatt	PDO	Programmatic Agreement
mW/cm <sup>2</sup>	milliwatts per centimeter squared	PEIS	Port Authority of Guam
N	north; not attained	PL	Pan American Health Organization
N <sub>2</sub> O	nitrous oxide	PM	polychlorinated biphenyl
NA	not applicable; not assessed	PM <sub>10</sub>	pentachlorophenol
NAAQS	National Ambient Air Quality	PM <sub>2.5</sub>	Pacific Decadal Oscillation
	Standards	POPs	Programmatic Environmental Impact
NAGPRA	Native American Graves Protection	ppm	Statement
	and Repatriation Act	PRDNER	Public Law
NANSR	Nonattainment New Source Review	PM	particulate matter
NAWAS	National Warning System	PM <sub>10</sub>	particulate matter up to 10 micrometers
NCA	National Climate Assessment	PM <sub>2.5</sub>	in diameter
NCD	non-communicable disease	POPs	particulate matter up to 2.5
NCDC	National Climatic Data Center	ppm	micrometers in diameter
NCN	no common name	PREQB	points of presence
NCRP	National Council on Radiation	PR OSHA	parts per million
	Protection and Measurements	PRASA	Puerto Rico Department of Natural and
ND	no data	PREPA	Environmental Resources
NE	northeast	PRSHPO	Puerto Rico Environmental Quality
NEPA	National Environmental Policy Act	PUAG	Board
NESHAP	National Emission Standards for	PV	The Puerto Rico Occupational Safety
	Hazardous Air Pollutants	RAN	and Health Administration
NFIP	National Flood Insurance Program	RCP	Puerto Rico Aqueduct and Sew
NFIRS	National Fire Incident Reporting	RCRA	Authority
	System		Puerto Rico Electric Power Authority
NHPA	National Historic Preservation Act		Puerto Rico State Historic Preservation
NIR	non-ionizing radiation		Office
NMFS	National Marine Fisheries Service	PSD	Prevention of Significant Deterioration
NMHC	non-methane hydrocarbon compounds	PUAG	Public Utility Agency of Guam
NMOG	non-methane organic compounds	PV	photovoltaic
NNE	north-northeast	RAN	radio access network
NOAA	National Oceanic and Atmospheric	RCP	Representative Concentration Pathway
	Administration	RCRA	Resource Conservation and Recovery
NOx	nitrogen oxides		Act

RF	radio frequency	vog	volcanic smog
RIN	Regulation Identification Number	VRM	Visual Resource Management
rms	root mean square	W	watt(s)
ROW	right-of-way	W/m <sup>2</sup>	watts per meters squared
SAAQS	State Air Quality Standards	WAPA	Water and Power Authority
SAFETEA-	Safe, Accountable, Flexible, Efficient	WHO	World Health Organization
LU	Transportation Equity Act: A Legacy for Users	WIMARCS	West Indies Marine Animal Research and Conservation Science
SARA	Superfund Amendments and Reauthorization Act of 1986	WNP	Western North Pacific
SCD	State Civil Defense	WNW	west-northwest
SE	Standard of Error	WPC	watts per channel
SHPO	State Historic Preservation Office	WPRFMC	Western Pacific Regional Fishery Management Council
SIP	State Implementation Plan		
SLR	sea level rise		
SMA	Special Management Area		
SMS	Scenery Management System		
SO <sub>2</sub>	sulfur dioxide		
SOx	sulfur oxides		
SPCZ	South Pacific Convergence Zone		
SPOC	Single Point of Contact		
SRES	Special Report on Emission Scenarios		
SSA	sole source aquifer		
STATSGO2	State Soil Geographic [Database]		
SW	southwest		
TAAQS	Territory Ambient Air Quality Standards		
TCP	traditional cultural property		
TEMCO	Territorial Emergency Management Coordinating Office		
TMDL	Total Maximum Daily Load		
TOC	total organic compound		
tpy	tons per year		
TRI	Toxic Release Inventory		
TSCA	Toxic Substances Control Act		
U.S.	United States		
UAMES	University of Alaska Museum Earth Sciences		
USACE	U.S. Army Corps of Engineers		
USC	United States Code		
USDA	U.S. Department of Agriculture		
USDI	U.S. Department of the Interior		
USEPA	U.S. Environmental Protection Agency		
USFWS	U.S. Fish and Wildlife Service		
USGCRP	U.S. Global Climate Change Research Program		
USGS	U.S. Geological Survey		
USVIDOH	U.S. Virgin Islands Department of Health		
USVIPD	U.S. Virgin Islands Police Department		
UVA	University of Virginia		
VIC	Virgin Islands Code		
VIPA	Virgin Islands Port Authority		
VISHPO	Virgin Islands State Historic Preservation Office		
VOC	volatile organic compound		

## 13. OTHER REQUIRED ANALYSES

In addition to the analyses discussed in the previous state/territory chapters, the National Environmental Policy Act (NEPA) requires an additional evaluation of the potential impacts from the Proposed Action related to unavoidable adverse impacts, any irreversible or irretrievable commitment of resources, and the relationship between local short-term and long-term productivity.

### 13.1. UNAVOIDABLE ADVERSE IMPACTS

The Council on Environmental Quality's (CEQ) NEPA implementing regulations (*40 Code of Federal Regulations [CFR] §1502.16*) require that an Environmental Impact Statement (EIS) evaluate the unavoidable adverse impacts from implementation of the Proposed Action. For this Proposed Action, the analysis indicates that no significant or unavoidable adverse impacts are anticipated. Once site-specific project information is known, the potential for adverse impacts would be analyzed, as appropriate, in NEPA documentation tiered from this Draft Programmatic EIS (PEIS).

### 13.2. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

CEQ's NEPA implementing regulations (*40 CFR §1502.16*) require that an EIS review the potential impacts to irreversible or irretrievable commitments of resources resulting from implementation of the Proposed Action. An irreversible commitment of resources refers to the loss of resource use in the future, whereas irretrievable refers to the loss of a natural resource for harvest, production, or use. These resources are irretrievable in that they would be used for a single project instead of being used for multiple purposes. An irretrievable commitment of resources is the loss of resources that cannot be replaced, recovered, or reversed. An example of irreversible commitments of resources could be the loss of a protected species or a cultural resource that would be considered permanent losses. An example of irretrievable commitment of resources could include the use of local contractors during deployment construction activities, during which the contractors supporting FirstNet deployment would be unable to work on other projects, and may cause temporary increases in the cost of local labor, equipment, or materials.

The potential impacts addressed in each Environmental Consequences section of the preceding chapters were determined based on the resource-specific impact significance criteria developed by FirstNet. As a result, the impact significance ratings<sup>1</sup> of the specific types of effects analyzed in this Draft PEIS cannot be directly related to the generalized discussion of irreversible or irretrievable commitments of resources in this section. However, any potential impacts that could create perceptible resources commitments that would be irreversible or irretrievable are assumed to result in some level of impact to a particular resource. Potential resource commitments are shown on Table 13.2-1.

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<sup>1</sup> As discussed in the Environmental Consequences sections, types of effects were rated as *potentially significant, less than significant with BMPs and mitigation measures incorporated, less than significant, and no impact* based on the characteristics of the potential effects. BMPs are best management practices.

**Table 13.2-1: Summary of Irreversible and Irretrievable Commitment of Resources by Resource Area**

Resource Area	Irreversible Impacts	Irretrievable Impacts	Explanation
Infrastructure	No	No	Short-term obstruction or temporary disruption to local infrastructure could occur during construction of deployment activities. There would be no long-term impacts to infrastructure.
Soils	Yes	Yes	If an undisturbed land area is selected for deployment and operation activities, there could be an irreversible resources commitment. Irretrievable impacts could occur if, for example, deployment/construction activities affect a planting or harvesting schedule or crop yields.
Geology	Yes	Yes	Removal or disturbance of paleontological resources (fossils) could potentially create irreversible and irretrievable impacts.
Water Resources and Wetlands	No	No	Deployment activities are not expected to cause irretrievable loss of existing waterbodies or wetlands, or exceed water quality standards.
Biological Resources	Yes	Yes	Removal or disturbance of habitat could potentially create minor irreversible and irretrievable impacts.
Land Use and Recreation	Yes	No	Land use required for the deployment activities could potentially be a minor irreversible impact.
Visual Resources	Yes	Yes	Irreversible and irretrievable impacts associated with obstruction of scenic areas could occur from some angles, and new light sources associated with project activities could impact enjoyment of the night sky.
Socioeconomic Resources	No	Yes	There could be a temporary increase in use of local contractors during construction activities, representing increased employment and an irretrievable loss of workers for other projects during construction.
Environmental Justice	No	No	In general, Environmental Justice impacts across each state or territory would not include irreversible or irretrievable effects. Analyses of individual proposed projects should assess whether potential impacts to specific environmental justice communities include irreversible and/or irretrievable effects.
Cultural Resources	Yes	Yes	Removal or disturbance of previously unidentified cultural resources could potentially result in irretrievable and irreversible impacts.
Air Quality	No	No	Project emissions are not expected to exceed federal or state air quality standards. Air quality would return to existing conditions after completion of deployment activities.
Noise	No	No	Potential short-term, temporary noise impacts may result during construction activities for deployment. There would be no long-term impacts to noise.
Climate Change	No	No	Greenhouse gas emissions are not expected to increase.
Human Health and Safety	No	No	Construction activities during deployment may increase human health and safety concerns. Any hazardous wastes would be disposed of properly. Conditions would return to normal after completion of deployment activities.

Where any potential irreversible or irretrievable commitments of resources are identified, they would be addressed in project specific environmental compliance documentation.

### **13.3. RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM PRODUCTIVITY**

CEQ's NEPA implementing regulations (*40 CFR §1502.16*) require that an EIS address the relationship between short-term use of the environment and the potential impacts of such use on the maintenance and enhancement of long-term productivity, particularly for beneficial uses. Such impacts can arise from choosing one action that could reduce the flexibility of pursuing other options in the future, or from selecting a specific parcel of land or other resource to a certain use that would not allow other uses to occur at the site. It is anticipated that implementation of the Proposed Action would not result in any impacts that would narrow the range of future beneficial uses of the environment because it would not pose any long-term risks to the health, safety, or the general welfare of public communities. Deployment activities would follow, where practicable and feasible, the BMPs and mitigation measures outlined in this Draft PEIS, as appropriate.

FirstNet does not intend to alter the current uses of the environment. Project-specific environmental compliance reviews would be conducted to ensure all environmental laws are met. During those reviews, each project element and activity would be evaluated, and the potential long-term effects on productivity of each environmental resource area would be disclosed and discussed relative to potential trade-offs.

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